CLAIMS

What is claimed is:

1. A measurement system comprising at least one mobile measurement device hosting at least a portion of a measurement system model, said mobile measurement device enabled to evaluate a measurement taken by said mobile measurement device in light of said model for making a determination concerning said measurement, relative to said model.

2. The system of claim 1 wherein said mobile measurement device augments said model using said measurement.

3. The system of claim 2 wherein said model on said mobile measurement device is augmented.

4. The system of claim 2 wherein a central system model is augmented.

5. The system of claim 1 wherein said mobile measurement device directs a user of said mobile measurement device to a better location for use of said mobile measurement device for a primary purpose, based on said model.

6. The system of claim 1 wherein said mobile measurement device directs a user of said mobile measurement device to a safer location for said user based on said measurement.

7. The system of claim 1 wherein said mobile measurement device determines if said measurements are repetitive relative to said model, and said mobile measurement device directs a user of said mobile measurement device to a location having sparse model data.

8. The system of claim 1 wherein said mobile measurement device refines a location of said mobile measurement device using said measurement and said model.

9 The system of claim 1 wherein said determination is a best mode of use of said mobile measurement device.

10. The system of claim 1 wherein said mobile measurement device is a wireless telephone, said measurements are of RF field strength at a location and said model is a model of RF field strength for a geographical area.

11. The system of claim 1. wherein said mobile measurement device further comprises:

communication capabilities for communicating said measurements and an augmented model to a central measurement system;

computational resources available for carrying out said evaluation; and

measurement capability.

12. The system of claim 11 wherein said measurement capability is a sensor interfaced to said mobile measurement device.

13. A measurement method using mobile probes comprising:

providing a model to a mobile measurement device;

making measurements of model variables with said mobile measurement device

evaluating, by said mobile measurement device, new measurements, using said model; and

augmenting said model using said measurements.

14. The method of claim 13 wherein said model on said mobile measurement device is augmented.

15. The method of claim 13 wherein a model in a measurement system that provided said model to said mobile measurement device is augmented.

16. The method of claim 13 wherein said model provided to said mobile measurement device comprises a portion of a central measurement system model.

17. The method of claim 13 wherein said evaluating further comprises determining if the new measurements reinforce said model, and said augmenting comprises noting said reinforcement in said model.

18. The method of claim 13 wherein said evaluating further comprises determining if the new measurements detract from said model.

19. The method of claim 18 wherein said evaluating further comprises evaluating the accuracy of a detracting measurement.

20. The method of claim 19 further comprising discarding faulty measurements.

21. The method of claim 19 further comprising replacing existing measurements in said model with measurements that improve said model.

22. The method of claim 19 further comprising adding new measurements to said model when said new measurements improve said model.

23. The method of claim 13 wherein said evaluating further comprises determining if data in said model for a location of a new measurement is sufficient, and adding said new measurement to said model in response to said model having insufficient data for said location of said new measurement.

24. The method of claim 13 wherein said mobile measurement device is a wireless telephone, said variable is an RF field strength at a location and said model is a model of RF field strength for a geographical area.

25. The method of claim 13. wherein said mobile measurement device comprises:

communication capabilities for communicating said measurements and an augmented model to a measurement system;

computational resources available for carrying out said evaluation; and

measurement capability.

26. A measurement method using mobile probes comprising:

providing a model to a mobile measurement device;

making measurements of model variables with said mobile measurement device;

evaluating, by said mobile measurement device, value of one of said measurements made at a location of said mobile measurement device, using said model; and

directing a user of said mobile measurement device to a different location in response to said evaluating.

27. The method of claim 26 wherein said model provided to said mobile measurement device comprises a portion of a central measurement system model.

28. The method of claim 26 wherein said evaluating further comprises determining if said evaluated measurement is adequate for use of said mobile measurement device.

29. The method of claim 28 wherein said different location is a better location for use of said mobile measurement device for a primary purpose other than as a measurement device.

30. The method of claim 26 wherein said evaluating further comprises determining if said evaluated measurement is dangerous to a user of said mobile measurement device.

31. The method of claim 30 wherein said different location is a safer location for said user.

32. The method of claim 26 wherein said evaluating further comprises determining if said evaluated measurement is repetitive relative to said model.

33. The method of claim 32 wherein said model has sparse data for said different location.

34. The method of claim 26 further comprising adjusting a measurement rate for said mobile measurement device.

35. The method of claim 26 wherein said mobile measurement device is a wireless telephone, said variable is an RF field strength at a location and said model is a model of RF field strength for a geographical area.

36. The method of claim 26 wherein said mobile measurement device comprises:

communication capabilities for communicating said measurements and an augmented model to a measurement system;

computational resources available for carrying out said evaluation; and

measurement capability.

37. A measurement method using mobile probes comprising:

providing a model of variable measurements to a mobile measurement device;

determining a general location of said mobile measurement device;

making a measurement of a model variable using said mobile measurement device; and

refining said general location of said mobile measurement device using said model and said measurement.

38. The method of claim 37 wherein said determining is carried out by said mobile measurement device.

39. The method of claim 37 wherein said model provided to said mobile measurement device comprises a portion of a central measurement system model.

40. The method of claim 37 wherein said mobile measurement device is a wireless telephone, said variable is an RF field strength at a location and said model is a model of RF field strength for a geographical area.

41. The method of claim 37 wherein said mobile measurement device comprises:

communication capabilities for communicating said measurements and an augmented model to a measurement system;

computational resources available for carrying out said evaluation; and

measurement capability.

42. A measurement method using mobile probes comprising:

providing at least one model to a mobile measurement device;

making measurements of model variables with said mobile measurement device; and

determining a best mode of use of said mobile measurement device based on said measurements.

43. The method of claim 42 wherein said best mode is augmenting said model using said measurements.

44. The method of claim 43 wherein said model on said mobile measurement device is augmented.

45. The method of claim 43 wherein a model in a measurement system that provided said model to said mobile measurement device is augmented.

46. The method of claim 43 wherein said determining further comprises determining if data in said model for a location of a new measurement is sufficient, and said augmenting comprises adding said new measurement to said model in response to said model having insufficient data for said location of said new measurement.

47. The method of claim 42 wherein said best mode is directing a user of said mobile measurement device to a different location.

48. The method of claim 47 wherein said determining further comprises determining if said measurement is adequate for use of said mobile measurement device for a primary purpose other than as a measurement device, and said different location is a better location for use of said mobile measurement device for said primary purpose.

49. The method of claim 47 wherein said determining further comprises determining if said evaluated measurement is dangerous to a user of said mobile measurement device and said different location is a safer location for said user.

50. The method of claim 47 wherein said determining further comprises determining if said measurements are repetitive relative to said model, and said model has sparse data for said different location.

51. The method of claim 42 wherein said best mode is refining a location of said mobile measurement device using said model and said measurement.

52. The method of claim 42 wherein said mobile measurement device is a wireless telephone, said variable is an RF field strength at a location and said model is a model of RF field strength for a geographical area.

53. The method of claim 42 wherein said mobile measurement device comprises:

communication capabilities for communicating said measurements and an augmented model to a measurement system;

computational resources available for carrying out said evaluation; and

measurement capability.